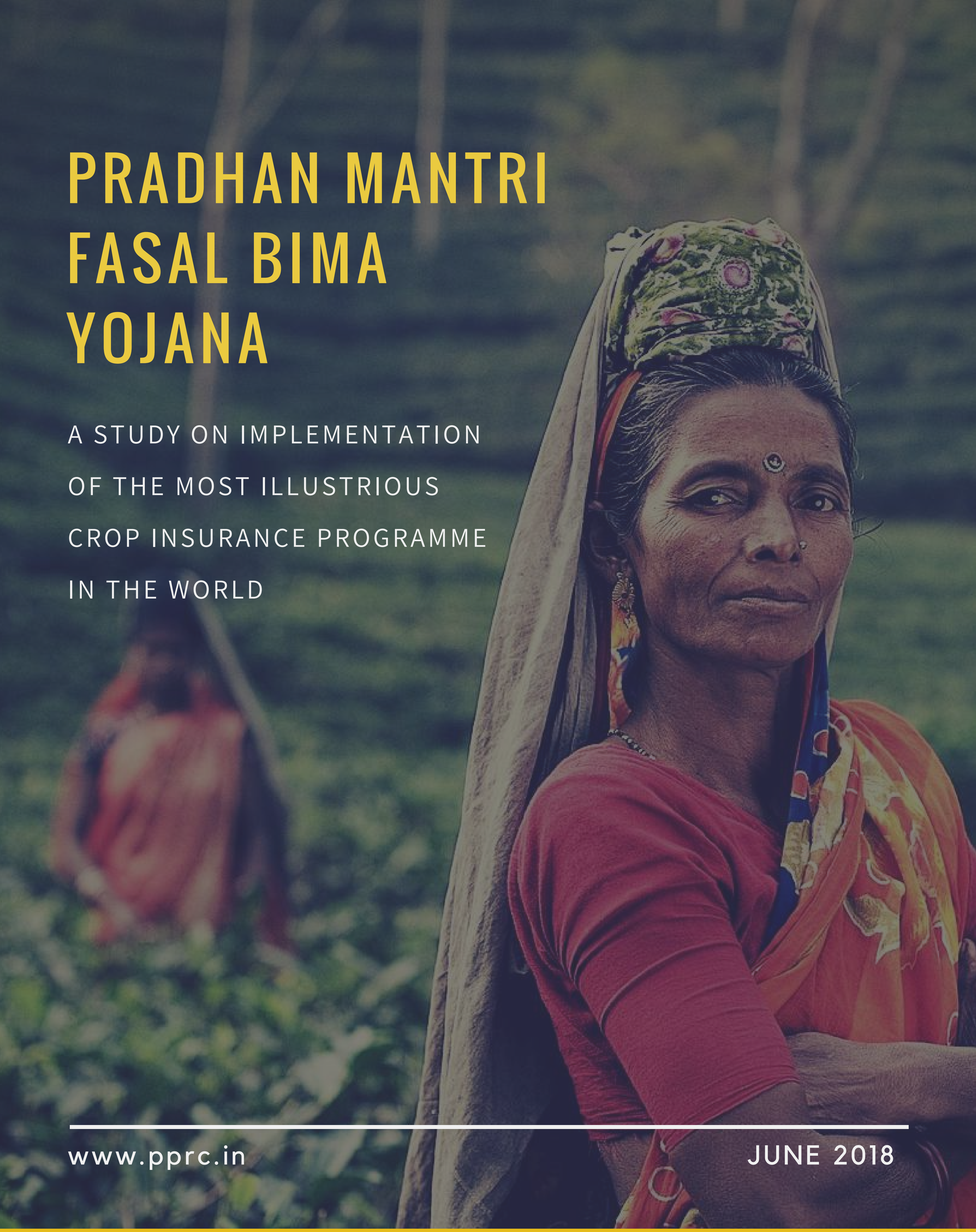

PRADHAN MANTRI FASAL BIMA YOJANA

A STUDY ON IMPLEMENTATION OF THE MOST ILLUSTRIOUS CROP INSURANCE PROGRAMME IN THE WORLD

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1. OBJECTIVES

Since the operationalisation of the new crop insurance programme by the NDA government 2 years ago, few studies were carried out to study the scheme – especially its implementation and operational aspects.

This study seeks to address this dearth in insights by carrying out a quantitative yet qualitative analysis of the scheme which could yield specific conclusions and actionable recommendations.

The objectives of this study, then, are as follows:

- To examine the secondary data on performance of the PMFBY for the year 2016-17 against common metrices such as premium, sum insured, etc.
- To study the implementation of the scheme on the ground through field visits.
- To document the best practices adopted. And to identify opportunities to improve through extensive interactions with the stakeholders at all levels.
- Put forward detailed and actionable recommendations to further the progress of PMFBY to help achieve the government's objective of insuring 50% of the Gross Cropped Area.

2. METHODOLOGY

This study uses both qualitative and quantitative research methods to probe the research questions obtained on the basis of literature review.

Facts and trends were first established through the help of data from the ministry and various State governments' agriculture departments, insurance companies, Commercial and Rural banks. The data were probed and filtered for important factors like the Non-loanee farmer coverage across States, which was used for systematic sampling of the field visits.

Other variables that were quantitatively analysed include Gross Premium – premium collected by the insurance companies inclusive of taxes, Sum Insured – the total value of the insured crop, Farmer Coverage, Area Insured, etc. With increased granularity, trends became clearer.

The three States that were chosen are: Maharashtra, Madhya Pradesh, and Rajasthan. While Maharashtra stands first in covering the Non-loanee farmers, Rajasthan remains at the other extreme. Madhya Pradesh comes at a distant second.

Further, the districts were chosen in the similar lines, with highest and lowest non-loanee farmer coverage. In Rajasthan, Dholpur and Barmer were visited. In Madhya Pradesh, Sagar and Sehore. The latter district was so chosen as it was in this district, the scheme was launched in 2015. Latur and Kolhapur were the districts in Maharashtra.

On the basis of these facts, open-ended and close-ended questions were composed into questionnaires to collect responses from all the involved stakeholders. Responses were obtained through variety of qualitative methods. Group interviews, Personal interviews, Focus Group discussions and consultations with practitioners and academics constitute majority of the qualitative component of this stage in the research. Extensive interactions were undertaken with the officials of State agriculture, horticulture departments, DACFW, the AIC, the loanee and non-loanee farmers from certain districts with lowest and highest proportion of covered farmers.

All State and district officials, excepting the two districts in Maharashtra, were consulted. The State level officials include Joint/Addl. Secretary (Agriculture), Convener of the State-Level Bankers' Committee (SLBC), Regional Manager of the AIC and other general insurance companies, if any. At district level, Dy. Director (Agriculture), representative of the insurance companies, Manager at the district's Lead Bank, loanee and non-loanee farmers at nearby villages. In addition, other district officials from 21 districts were contacted through electronic means and informal consultations were carried out.

At centre level, officials from the ministry and the department concerned were consulted, in addition to the higher management of the AIC, and another private insurer. Further, banking officials at the corporate level were also consulted. Private brokerage firms were also contacted and their experience on the field elicited.

The study considers the learned opinions of the academics and practitioners from institutions like the Indian Agricultural Research Institute, Pusa and the NITI Aayog.

3. INTRODUCTION

3.1 CROP INSURANCE IN INDIA

According to National Rainfed Area Authority (NRAA), rainfed areas currently constitute 55% of the net sown area of the country. In other words, majority of Indian agriculture is still dependent on annual monsoon rainfall exposing our agriculture to the vagaries of nature. While extreme weather conditions like cyclones, storms, floods, inundation, tempest, heat waves affect the crops extensively, not-so-extreme weather conditions like frost during critical conditions of crop cycle will hit the crops equally hard. The typical Indian farmer is exposed to enormous natural risks.

The unfortunate phenomenon of climate change only worsens the situation. According to the assessment reports by the Intergovernmental Panel on Climate Change (IPCC), the temperature and rainfall extremes are poised to shift upwards, increasing the intensity of both heatwaves and the tropical storms – the most common causes of crop devastation. Other risks that pose threats include rising sea levels, and the shifting seasonal patterns.

Traditionally, the coping mechanism deployed by the governments in the country against natural calamities is in the form of ad-hoc measures of relief packages released from the State Disaster Relief Fund (SDRF)/National Disaster Relief Fund (NDRF). The funds allocated for this purpose during the period 2010-15 amount to Rs. 33580.93 crore.[1] However, due to numerous reasons, not the least of which are arbitrary damage assessment and opaque disbursements, an acute necessity is felt for

[1] Rajya Sabha Starred Question No-431 Answered On-06.04.2018

an institutional mechanism to deal with the issue. Crop insurance envisages to address this need.

The Pradhan Mantri Fasal Bima Yojana (PMFBY) has been implemented from Kharif 2016 and is currently running into its fourth successful season. Although crop insurance existed for decades in our country, it certainly entered into a new phase with the launch of PMFBY. The crop insurance schemes existing hitherto were consolidated and rejuvenated to create the PMFBY and Restructured Weather Based Crop Insurance Scheme (RWBCIS).

Even as India was yet to attain independence, the first idea of crop insurance was mooted way back in 1920 proposing to insure the crops of erstwhile Mysore State according to a paper published in EPW.[2] However, serious efforts were initiated only after the independence, which came to fruition in the form of Comprehensive Crop Insurance Scheme (CCIS) in the financial year 1985-86. Detailed account of developments that occurred prior to this period from independence were detailed in a report submitted by the committee commissioned by the Department of Agriculture Cooperation and Farmers' Welfare (DAC&FW)[3].

After the CCIS, the Experimental Crop Insurance Scheme (ECIS) and Pilot Scheme on Seed Crop Insurance (PSSCI) were implemented during the 1990s which then led to the popular National Agricultural Insurance Scheme (NAIS) from Rabi 1999-2000 to Kharif 2013. The NAIS gave way to Modified NAIS (MNAIS). From Kharif 2016, the PMFBY was operationalised in full-fledged roll-out across the country.

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[2] Mishra, P.K. "Is Rainfall Insurance a New Idea: Pioneering Scheme Revised." *Economic and Political Weekly* (1995): A84-88.

[3] India, Committee to Review the Implementation of Crop Insurance Schemes in. *Report of the Committee to Review the Implementation of Crop Insurance Schemes in India.* Final Report. New Delhi: Department of Agriculture & Cooperation, 2014. Document.

The report is divided into four segments dedicated to each of the aspects of the study viz. Methodology, Observations, Conclusions, and Recommendations.

The first chapter lays down the methodology adopted for collecting the relevant information. In specific, empirical basis for the sample, and the qualitative measures employed for consultations and discussions.

The next chapter treats in detail the observations made without drawing any opinions therefrom. Third chapter analyses the observations and draws empiric conclusions on the same. Final chapter comprises recommendations made in response to the conclusions derived.

On examining the limitations of the existing set up of crop insurance in the country, the NDA government that came to power in 2014 revamped the system with the Pradhan Mantri Fasal Bima Yojana. The objectives of crop insurance have also been expanded to include financial support to farmers, stabilizing their income, encouraging them to adopt innovative practices, and finally ensuring credit flow to agriculture sector.

3.2 SALIENT FEATURES OF THE SCHEME[4]

Coverage of Farmers: All the farmers including sharecroppers and tenants who hold valid documentary evidence of land records, and possessing insurable interest for insured crops can be covered. Farmers availing Seasonal Agricultural Operations loans from financial institutions i.e. loanee farmers are covered compulsorily under the scheme. Non-loanee farmers may opt for it.

[4] Operational Guidelines of Pradhan Mantri Fasal Bima Yojana, Ministry of Agriculture & Farmers' Welfare

Coverage of Risks: Risk coverage is enhanced to include prevented sowing risk prior to sowing the crop; standing crop risks to include drought, flood, inundation, pests and other natural perils; post-harvest losses include risks from unseasonal/cyclonic rains during cut and spread position in the field; and finally, localized calamities include risks from hail, inundation etc. that affect limited geographical area.

Notification: The State government must notify prior to each season the insured crops, area, implementing agency, indemnity level, sum insured, and premium rates. It also notifies the seasonality discipline – timeline for submission of proposals, yield data, declarations of banks, and claim assessment.

Sum Insured: The sum insured is equal to the scale of finance per hectare for both loanee and non-loanee farmers. The scale of finance is declared by the District Level Technical Committee by taking into consideration various inputs and costs of cultivating a crop in one hectare in that district.

Premium Rates and Premium Subsidy: The actuarial rate arrived by the insurance company will be charged for PMFBY. However, the farmer pays only 2% and 1.5% of sum insured or actuarial rate, whichever is less, for Kharif and Rabi respectively. For commercial/horticultural crops, the farmer share stands at 5%. The difference between the actuarial rate and the rate payable by the farmers is borne by the State and Central government in equal share.

Selection of Implementing Agency: Implementing agencies/insurance companies are selected by the State government through competitive bidding. The government groups districts called clusters based on their risk profile and together are offered to insurance companies for bidding for up to three years.

Assessment of Loss or Shortfall in Yield: The scheme operates on 'Area Approach' basis i.e. insurance unit (IU) for major crops will be village/panchayat level, and higher levels for minor crops. Crop Cutting Experiments (CCEs) must be conducted for each crop at its insurance unit level. If IU is village, then 4 CCEs must be performed for each crop. Corresponding figures for Block level and District level are 16 & 24 respectively.

Innovative Technologies for Crop Cutting Experiments: CCEs are harvest measuring exercises performed on small, pre-identified plots on cropped fields on random sampling basis, which serve to establish benchmark average yield in each insurance unit per crop.

The yield data obtained from CCEs currently lack reliability due to a number factors. To address this shortcoming, the PMFBY guidelines suggest using mobile phones/hand-held devices to video record the entire CCE activity and geotag them through coordinates. In order to rationalize the number of CCEs, satellite imagery may be used.

Timeframe for operations: State government must constitute the State-level Coordination Committee on Crop Insurance (SLCCCI) and notify the requisite details before the season starts. The banks and farmers must submit proposals and remit premium according to given cut-off dates. Government must also credit premium subsidies based on fair estimates and remit the balance upon communication from insurance companies. Government must also submit the yield data within one month after final harvest for facilitating claim settlement. Operational Guidelines have been formulated and notified by the central government to direct the State governments in this regard.[5]

[5] Operational Guidelines of the PMFBY, Ministry of Agriculture & Farmers' Welfare

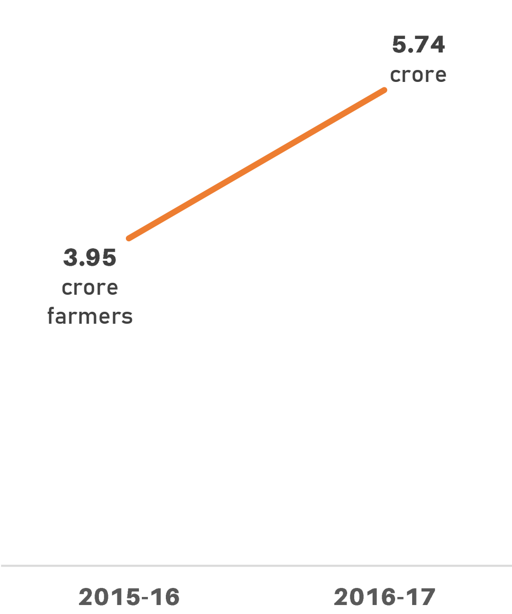
4. OBSERVATIONS

The PMFBY was operationalised during the year 2016-17. The new insurance programme being a paradigm shift in the India's crop insurance practice, it warrants a close look into the experience of PMFBY implementation during its initial year. This section presents a systematic analysis of this experience following a set of key metrics which inform the scheme's success.

4.1 FARMER COVERAGE:

PMFBY registered a good progress in reaching out to more number of farmers. The total farmers covered under previous crop insurance schemes (excluding WBIS) was 3.95 crore for the year 2015-16. It rose to 5.74 crore for the year 2016-17 with the inauguration of PMFBY. This translates to a growth rate of 45% in terms of sheer number of farmers covered under the scheme.

Farmer Coverage

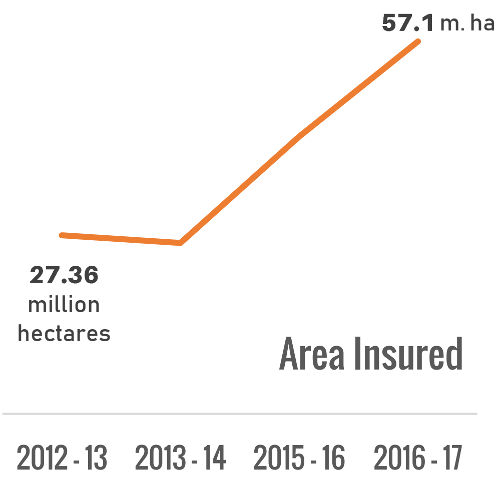


A reasonable estimate to arrive at the share of beneficiary farmers to total farmers in the country would be to consider the number of operational holdings as reflective of total farmers. During the year 2016-17, the period under consideration, 5,74,87,764 (5.74 crore) PMFBY applications were received. Since the number operational land holdings according to 2010-11 agriculture census are 13,83,48,461 (13.83

crore), the total share of PMFBY covered farmers stands at a staggering 41.5%. (See Annexure-I)

To understand how PMFBY emerged as a paradigm shift in crop insurance, consider this: the number of farmers covered under crop insurance (CCIS) for the entire period of 1985 to 1999 (15 years) is 13.88 crore. And the corresponding figure for the NAIS during 2000 to 2012 (13 years) was 20.3 crore[6]. On an average, the previous crop insurance scheme (NAIS) covered 1.57 crore farmers every year. By insuring 5.74 crore farmers in a year, the PMFBY essentially operates on an unprecedented scale by insuring almost four times as many number of farmers as covered under previous schemes.

4.2 AREA INSURED:



The area insured under the PMFBY for the year 2016-17 stands at 57.1 million hectares while the corresponding figure for 2015-16 (NAIS & MNAIS combined) is 42.5 million hectares. This points to a healthy 34.3% improvement in insured area was achieved during the first year of PMFBY implementation.

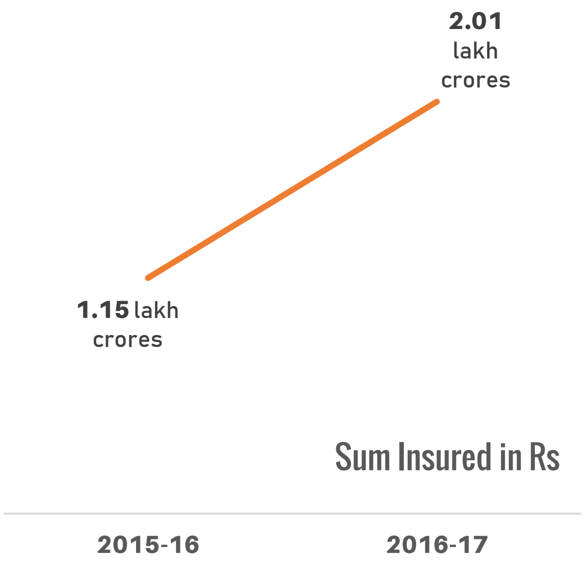
In 2015-16, 23% of Gross Cropped Area was covered under crop insurance. The government achieved its goal of covering 30% GCA in 2016-17. For the ongoing

[6] India, Committee to Review the Implementation of Crop Insurance Schemes in India. *Report of the Committee to Review the Implementation of Crop Insurance Schemes in India.* Final Report. New Delhi: Department of Agriculture & Cooperation, 2014. Document.

season of 2017-18, 40% GCA is set as the target so that 50% GCA will be achieved as envisaged during the launch of PMFBY.

Average area insured per farmer during 2015-16 is 1.075 hectares. The same for 2016-17 is reduced to 0.994 hectares, a drop of 8%. This shows that PMFBY insured more small and marginal farmers than their medium and large counterparts. **The PMFBY is not only extensive, but more importantly, inclusive in its coverage.**

4.3 SUM INSURED:



Under PMFBY, the Sum Insured (SI) will be equal to the Scale of Finance (SOF) as decided by the District Level Technical Committee (DLTC) for both loanee and non-loanee farmers. Scale of Finance is the cost for raising a crop per hectare. Previously, when there was no such requirement, the State Governments often reduced the insured sums to limit the expenditure incurred for paying premium subsidies.

Due to the parity between the sum insured and the scale of finance in the new crop insurance scheme, the SI under PMFBY for the year 2016-17 (Kharif and Rabi) has witnessed an impressive growth rate of 75% from previous year. Whereas the cumulative sum insured for the year 2015-16 under NAIS & MNAIS was 1,15,098 crores, it has soared to 2,01,023 crores under PMFBY during 2016-17.

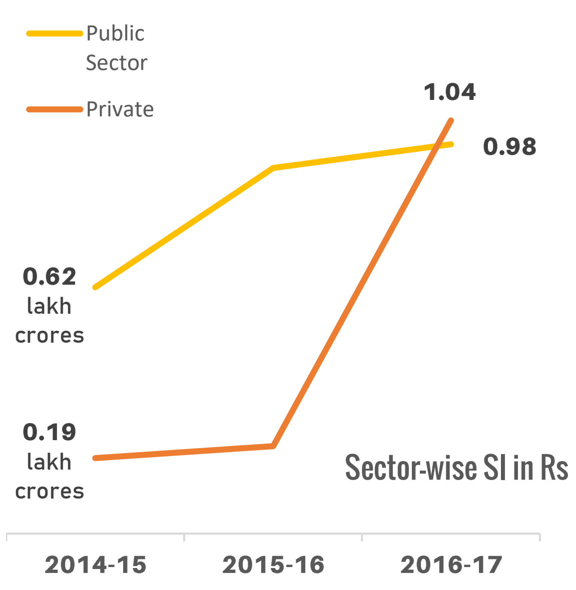
The average sum insured per hectare in 2015-16 is Rs 27,000 which rose to Rs 35,000 during 2016-17, recording a growth rate of 26%. This growth is even more impressive because it was achieved despite insured area surging by over 14.6 million hectares during the same period. The PMFBY is steadily on its way to filling the gap between the sum insured and the cost of cultivation.

4.4 SECTOR-WISE SUM INSURED:

(Rs in Crores)

Year	Implementing Insurance Companies	Total Sum Insured	Sum Insured by Public-Sector Companies	Sum Insured by Private Companies
2014-15	AIC + 10 Private Insurance Companies	82042	62100 (75.69%)	19942 (24.31%)
2015-16	-Do -	115085	92291 (80.20%)	22794 (19.80%)
2016-17	AIC + 4 Public-Sector +11 Private Insurance Companies	202822	98011 (48.33%)	104811 (51.67%)

PMFBY thrusted the crop insurance portfolio into the mainstream insurance segments. According to IRDA gross premium figures for the year 2016-17, the crop insurance segment stands third – Motor being first, followed by Health segment.



Previously, administrative premium rates fixed by the government – rather than market-determined actuarial rates – were implemented by the public-sector insurance corporations. This practice introduced many rigidities into the system. However, the PMFBY has done away with this system throwing open the programme to the market forces. The above table shows the share of private and public companies in terms of sum insured.

4.5 GROSS PREMIUM:

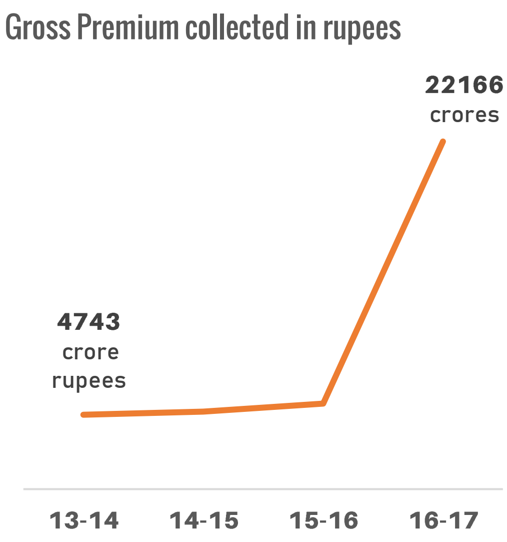
(Rs in Crores)

S. No	Year	Farmers' Premium (rupees in Cr)	State Govt. Premium Share (rupees in Cr)	GOI Premium Share (rupees in Cr)	Gross Premium (rupees in Cr)	% Change
1	2012-13	1999	1256	1042	4297	
2	2013-14	2460	1217	1066	4743	**10.37 %**
3	2014-15	2707	1188	1050	4946	**4.27 %**
4	2015-16	3256	1210	975	5450	**10.19 %**
5	2016-17	4373	8800	8990	22166	**306.71 %**

Gross premium refers to the total premium collected from both the farmers and the government in the form of subsidies. The gross premium collected during 2016-17 under PMFBY stands at Rs 22,166 crores. Corresponding amount for the previous year of 2015-16 was Rs 5,450 crores. In other words, gross premium rose by astronomical 307% under the PMFBY scheme.

Primary reason for this manifold increase is that the PMFBY has scrapped the limits on premium rates. Previously, premium rates were capped to mainly reduce the liability for the governments in the form of premium subsidies.

"In previous schemes, the premium rates were capped at 11 per cent and 9 per cent (of sum insured) for food and oil seeds crops for Kharif and Rabi season respectively. In case of crops whose premium was higher than the capped level, sum insured was reduced to capped level (...) The capping resulted in very low sum insured and high premium rate under MNAIS. This issue has now been resolved in PMFBY. There is no capping on



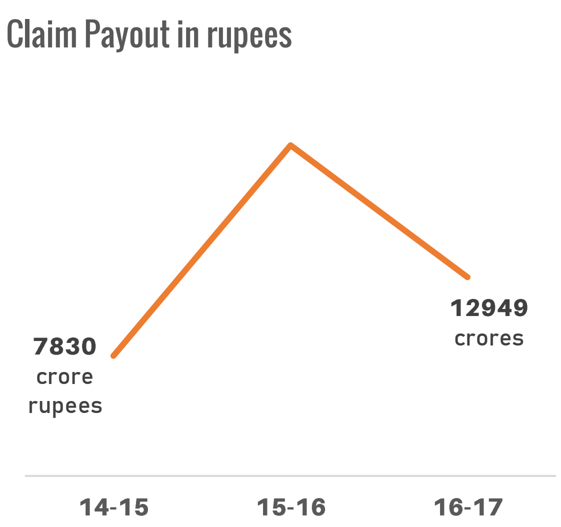
premium rates and sum insured is now based on the Scale of Finance for the district as decided by district level technical committee" (Gulati A, et al, 2018)

Currently, Farmer pays 2% of the sum insured as premium, and the rest of the premium is paid by the Central and State government in 50:50 ratio. International experience suggests that extensive coverage of crop insurance follows after heavy subsidization of premium by the government. Irrespective of the country, China, Brazil, USA, and Kenya have all subsidized their crop insurance. And average subsidies given by the government amount to 75-80%.

PMFBY is essentially a step in the right direction. There is no doubt that the premium rates for PMFBY were exorbitant. However, what is also certain is that after a few runs, many of the processes involved in the implementation are poised to be streamlined which will invariably bring down the premium rates, rendering the program sustainability.

4.6 CLAIM SETTLEMENT AND FARMERS BENEFITTED:

As incidence of claims depends on the climatic conditions of the season, the quantum of claims settled per se does not have any bearing on the success of the scheme, it is still worthwhile to analyse the claim situation under the PMFBY. As shown in the table below, the claims incidence was highest during the year 2015-16 as it was a drought year. Since 2016 was a surplus year, the claim incidence was low despite huge growth in area and farmer coverage in that year.



	2014-15	2015-16	2016-17
FARMERS INSURED (in crores)	3.7	4.85	5.73
CLAIMS PAID (Rupees in crores)	7830	21562	12949
FARMERS BENEFITTED (in crores)	1.90	2.97	1.20

4.7 PMFBY IMPLEMENTATION DURING 2017-18: THE YEAR AHEAD

Broad patterns of PMFBY implementation are emerging from the current year 2017-18. Having observed the performance of PMFBY in its first operational year, it is time to analyse the ongoing year 2017-18.

The key metrics like the number of farmers covered and the area insured appear to be slowing down. There are two reasons for the slow-down. Firstly, from the Kharif 2017, the government mandated the Aadhar linking for all the PMFBY applications to weed out duplication - a chronic problem in crop insurance. Naturally the number of farmer applications comes down.

Secondly, during the previous year, a number of States including large ones like Uttar Pradesh, Maharashtra, Rajasthan, Karnataka, etc have announced loan waiver programmes. To this end, the loan accounts are experiencing reduced recoveries leading to declining credit limit for the next season. As a result, many accounts were not rolled-over for the next season effectively rendering them inactive. Since inactive accounts cannot be insured, the PMFBY numbers slow down too.

However, States like Andhra Pradesh and Telangana, which have already carried out their loan waiver programmes have seen a continued surge in their numbers compared to 2016-17. This explains that once the loan waiver scheme has been implemented successfully, the number of farmers covered under PMFBY rebound to regular numbers.

5. ANALYSIS OF ISSUES

As observed in the preceding section, PMFBY was a decisive paradigm shift in crop insurance implementation of the country.

In this section, issues encountered during implementation of the scheme, positive or otherwise, will be thoroughly analysed, and possible solutions are offered wherever appropriate. Through field visits and consultations, this study has documented such experiences and issues which the stakeholders of the scheme have taken note.

5.1 INSURING TENANT FARMERS:

Background: Many tenant farmers cultivate on others' land without any formal undertaking between them save an oral agreement[7]. In other words, these unofficial tenants do not enjoy any legal status in the law as they are absent from revenue records. They manage at least 20% of all land holdings in the country.[8]

Typically, a tenant farmer agrees to pay the land owner a sum in return for allowing to cultivate on his land. Since the tenant is entirely responsible for all the necessary inputs/investment in the crop, s/he is vulnerable to incurring a total loss in the event of crop failure. Crop insurance benefits this section of farmers the most.

Conclusion: The current guidelines of PMFBY require land ownership or tenancy agreements to enrol for the crop insurance, thus leaving out large sections of farmer population who doesn't possess documentary evidence from availing insurance.

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[7] Occasional Paper, *Raising Agricultural Productivity and Making Farming Remunerative for Farmers,* NITI Aayog

[8] Chandran, Rina. *https://www.reuters.com/article/us-india-landrights-law/indian-model-land-leasing-law-promises-greater-security-for-tenant-farmers-idUSKCN10S1DT*. 17 August 2016. April 2018.

Recommendation: Financing the tenant farmer, although of paramount importance, is not the objective of this exercise. But insuring the tenant farmer is a core concern of this study. Accordingly, out of the many discussions held with relevant stakeholders, this study makes the following recommendation which, while not bestowing any land ownership of any form, will recognize the tenant farmer nevertheless:

Most initiatives to finance these 'unofficial tenants' hitherto necessitated the owner of the land to certify the tenancy of the farmer. However, with historical experience in land reforms, the land-owning class is deeply suspicious of the government's motives in this regard and refuse to undertake any measure that seeks to empower the tenant by giving them any documentary existence. Thus, in line with Dr. Panagariya's suggestion, any intervention must be at the Gram Panchayat level, outside of the purview of revenue records.

A Crop Insurance Committee at Gram Panchayat-level may be formed comprising several members including the Sarpanch (Chairman of the Committee), the Headmaster of the school, the Patwari from the revenue department, the Field Officer / Farmer Friend from the Agriculture Department, and other elders in the village.

This committee will issue an insurance eligibility certificate by verifying tenancy of farmers after field visits and if possible, consulting with the land owners. The certificate issued by this body could be submitted to the banks along with the sowing certificate to avail the crop insurance on their crops. Since the revenue records are untouched, no formal tenancy/ownership issues arise, reassuring the owner. As the Sarpanch is the responsible official for convening the Committee, the Gram Panchayat is held accountable for performance of this Committee.

The success of this committee's performance may be achieved by linking it to the performance-based grant of the Panchayat budget. The Fourteenth Finance Commission recommended a Basic Grant + Performance-based Grant model (in 90:10 proportion) of budget allocation to Gram Panchayats. In continuation to this, this study recommends inclusion of the performance of the aforementioned committee under the criteria of Performance-based Grant component of Gram Panchayat budget. This is just one way to incentivize the working of the committee. Another way perhaps is to announce cash prizes for best performing GPs similar to the Nirmal Gram Puraskar.

Already the crop insurance portal is being linked to the land records to avoid duplication. If the deadline for tenant farmer is set earlier than loanee farmers, then the tenant's proposal takes precedence and debiting premium from the landowner can be prevented.

5.2 IMPROVING NON-LOANEE FARMER COVERAGE

Background: Non-Loanee Farmers are those who are not financed by formal credit institutions, but own land and form a large share of the farmer demography. Currently they constitute roughly 25% of the entire insured farmers (*refer Farmer Coverage Section in the preceding chapter)*.

In 2016-17 alone, PMFBY covered 1.37 crore non-loanee (NL) farmers. In the previous year, only 97 lakh NL farmers were covered. This is no doubt a great achievement. To achieve the thumping success of the scheme by covering 80-90% of Gross Cropped Area as other countries did, however, the NL coverage must pick up steam in the future seasons.

Conclusion: PMFBY is voluntary for NL farmers, who are also relatively less aware. But NL farmers are largely considered as risky by the insurance companies because they are outside the formal banking system with no credit history, thus credibility. Insurance companies seem to hesitate in investing in extensive manpower to insure NL farmers.

The insurance companies contended that the commission structure for crop insurance is too low for recruiting and sustaining the individual agency workforce like other lines of insurance. Moreover, they lack compliance systems that prevent agents from involving in fraudulent activities. Employing brokerage firms for this purpose did not prove to be of significant improvement.

Recommendation: A good blueprint for NL coverage already exists: The Maharashtra model of involving the Common Service Centres (CSC) tied to Digital India programme has huge potential because CSCs are established almost in every gram panchayat. Since the insurance companies are unable to foster their own service-delivery channels, these citizen services outlets may serve the purpose to a large extent.

In Maharashtra, these CSCs were enabled to accept the PMFBY proposals from NL farmers. For each processed application, the CSCs receive commission. This proved to be a breakthrough alternative channel other than banks and insurance companies. This mode is being rolled out full-fledged from this season.

However, this study recommends that commission payment to the CSCs be entirely borne by insurance companies as they invest little in any of their own infrastructure. Together with good marketing, this strategy may prove to be worthwhile.

5.3 CROP-CUTTING EXPERIMENTS: LEVERAGING CAPABILITIES & TECHNOLOGY

Background: Crop-Cutting Experiments (CCEs) are yield measuring exercises which the government uses to establish benchmark yield. Specific number of tiny plots (usually 4'X4' size) are identified on random sampling basis. 4 such plots are selected per village per major crop. Other crops are assessed on a sliding scale depending on the unit area of insurance. After harvesting, yield is measured scientifically and documented. This data becomes the statistical point of benchmark yield. In case of a large state like Maharashtra or Madhya Pradesh, the number of CCEs typically run into their lakhs. As harvesting is done in a narrow window of time, all the experiments are to be performed within a span of a few weeks.

Conclusion: Critical issues with CCEs are personnel constraints and local pressure. In many states, CCEs are being carried out by several government departments, including Revenue, Agriculture, Rural Development and others, depending on the strength of personnel on the ground. Due to chronic shortage and overburdening of government officials, not all the requisite number of CCEs are performed in the field and data is just recorded through extrapolation and estimation. Our discussions with officials also support this fact.

The government suggested the use of mobile phones to record the CCEs in real time which ensures that CCEs are actually conducted in the field. It also eliminates the possibility of under-reporting the yield due to the local pressure from farmers as farmers routinely pressure the field officials to report lower yields as it caters to their interests. However, in large number of cases, technology is not deployed either due to lack of technological abilities or the lack of appropriate training.

Recommendation: A possible solution put forward by many stakeholders is reducing/rationalizing the number of CCEs through a combination of drone technology, satellite imagery and other remote sensing capabilities. This study, however, is of the view that rather than reducing the number of CCEs using technology, efforts must be put into improving their quality through technology because CCEs are data points. The more data points available, more granular the data and better service delivery. In fact, both ground-truthing and technology may be employed to arrive at a large number of good-quality CCEs.

One way forward in performing CCEs is the employment of Gram Rozagar Sahayak (GRS) for this purpose. The GRS is the employee at the Gram Panchayat level hired to monitor the progress of MGNREGA. This government introduced improvement in the employment scheme called as GeoMGNREGA – photographing and geotagging the created assets under the scheme. As the GRS is responsible for GeoMGNREGA, s/he is familiar with the technology involved, which is similar to the one used for conducting CCEs. This skillset may be utilized for carrying out all the CCEs at Gram Panchayat level. There may be multiple ways of verification.

As the schedule of CCEs is prior notified, either the insurance and/or government officials may visit the ground-truthing on random sampling basis to verify the accuracy and sanctity of CCE. Moreover, with emerging remote sensing technologies, it may be possible to identify and notify the CCE locations at the GP level to the Gram Rozgar Sevak with specific geo-coordinates on the same day so that the GRS could match these coordinates while performing the experiments.

Karnataka's attempt to ensure compulsory use of smartphones through their 'Samarakshane' portal was a good initiative. It gives the details of CCE claim statements farmer-wise, Aadhar number-wise and account number as well. And insurance companies are given an opportunity to verify during CCE activity and may not dispute the veracity of CCEs once the deadline passes and the CCEs performed.

These efforts together may form a robust CCE framework instilling confidence in their results, eventually bringing down the burgeoning premium rates.

5.4 TRAINING AND TECHNICAL SUPPORT:

Background: Crop insurance being a very sophisticated product, State governments require technical capacity building to undertake this programme. To this end, the Operational Guidelines mention a Technical Support Unit to be set up in the Ministry which houses experts. However, it is yet to be established. This must be a priority for optimal implementation of the scheme by the State governments.

Conclusion: For instance, during Kharif 2016, Soybean farmers in Sagar district of Madhya Pradesh were affected due to rainfall deficit who then shifted to Urad. However, at the end of the season, they were once again affected due to unseasonal rainfall and lost the Urad crop too. The banking and agriculture officials were unaware that the crop name can be changed under PMFBY and let it remain as Soybean whereas the crop damaged in the field was Urad. The claim situation in this case is still in negotiation.

Another important issue is that of extending the cut-off dates which are specifically laid down in the guidelines. In the initial season, the cut-off date had to be moved further away for 10 days. States like Andhra Pradesh and Chattisgarh, which have completed the bidding process well within the cut-off date have received favourable rates of 4-9%. But in the case of Bihar, for instance, the tenders were floated in the month of July 2016, when the flood situation in the State became clear, resulting in a high actuarial rate of 17%. Extending the deadline causes a steep rise in the premium rates.

State governments also require support to maintain seasonality discipline. It appears that the States do not realize the importance of adhering to the strict timeline suggested in the PMFBY guidelines. Many States release the notification just days before the official cut-off dates while the guidelines require it be released a month prior at least. This seriously jeopardizes the coverage of non-loanee farmers as it takes time for enrolment.

Recommendation: An intensive sensitization campaign must be taken by the central government to ensure that States adhere to the operational guidelines. In addition, a group of in-house technical experts must be available for hand-holding the States to perform the implementation activities. Not only the governments, other stakeholders like banks also must be trained in key aspects of PMFBY.

Although PMFBY is doing a great job in insuring farmers, to make the premium subsidies burden sustainable on the government exchequer, however, a dedicated training workforce must be employed to train stakeholders in best practices which help in reducing the premium rates in the long run.

5.5 AGRI-INSURANCE WEB PORTAL:

Background: The agri-insurance portal has been created by the Union government to provide a centralised IT-enabled platform for PMFBY implementation. All the stakeholders are authorized to perform requisite operations on this portal and all the vital data are captured at one place.

Conclusion: A committee under the chairmanship of Dr. P K Mishra was appointed by the government to review the implementation of crop insurance schemes in 2013, which submitted its report in 2014. One of the key recommendations in this report is to create a common national agri-insurance portal along the lines of the similar portal created by NIC Gujarat. In our discussions with several stakeholders on the ground, there was a strong expression of positive opinions towards Gujarat's portal.

Recommendation: The current agri-insurance portal, however, appears to have left out Gujarat portal's design. This fact assumes significance considering that State governments like Karnataka, Rajasthan, Uttar Pradesh, etc. are all investing to create their own portals besides the existing central government's portal. A re-examination of agri-insurance portal design and details is warranted to curb the creation of similar portals by States and saving resources.

5.6 INSURANCE POLICY DURATION:

Background: The current PMFBY insurance contract is valid for 6 months or one crop season (Kharif or Rabi). Twice every year, all the stakeholders including the banks, insurance companies and the government make extensive efforts to roll out the insurance programme. At the start of the season, the banks and government undergo intense pressure to coordinate and complete the work on time, while at the end of the season, it is the insurance companies that must perform.

Conclusion: This continuous cycle of relentless operations may impact the quality of implementation as administrative procedures must be undertaken frequently. Most of the implementing institutions have expressed similar views during consultations.

Recommendation: This study recommends an annual crop insurance contract, with variable premium rates along the year.

At present, the bids are invited well before the onset of crop season which necessitates that the premium is estimated through fair forecast of the upcoming season. In continuation to this, and with the help of technology, it is certainly possible to forecast the next season as well and quote the appropriate premium for an year-long contract.

There are several benefits to this: firstly, the banks and the government can limit their ceaseless PMFBY operations to one time in a year; secondly, the insurance companies may benefit from higher investment profits from the annual premium accrued at once; thirdly, actuarial legroom will be created by introducing one-year duration so that the notification-related delays by the government may be prevented to affect the premium rates.

5.7 COMPETITIVE BIDDING TENURE:

Background: Presently, States are free to choose the bidding tenure of the clusters to the implementing agencies. However, the maximum duration prescribed by the operational guidelines is 3 years.

The basic objective of fixing a bidding tenure is to fix ownership. In other words, it is assumed that the insurance companies do not invest in infrastructure and manpower in the implementing district if they remain there only for 1 crop season. Conversely, it is also assumed that if the companies remain in a district for multiple seasons, they have an incentive to build manpower and infrastructure.

Conclusion: However, it is not clear if the intended objective is being achieved. It was informed that longer bidding tenures resulted in higher premium rates due to adverse selection risk. But Madhya Pradesh, which invited for 3 year bids, enjoys a lower premium rate than, say Rajasthan. And states like Rajasthan which invited bids for 1 year initially have reverted to 6-month tenure from this year going against the conventional wisdom.

Recommendation: There is a need to streamline the tenure once enough data are generated through implementation and a sweet spot must be discovered between viable premium rates as well as long-enough tenure to incentivize capacity-building.

5.8 DELAYED CLAIM SETTLEMENTS AND INTEREST IMPOSITION:

Background: The efficacy of an insurance programme depends on the duration for settlement of claims. It appears that significant proportion of claims take one crop season to get settled. As a result, the pay-out couldn't reach the farmer prior to the next sowing.

Conclusion: A common issue that was noticed is that even after timely submission of yield data, the insurance companies take significant time to settle the pay-outs. In some instances, the banks also delay remitting the premium amount to the farmers' accounts. It was also observed that many insurance companies still rely on issuing cheques for the pay-out amounts. Due to the unnecessary human interference, the cheques are often lost in transit or contain misspelled names, etc.

Recommendation: As things stand, the government does not have effective mechanism to hold them accountable for delay. Imposing progressively increasing interest rates may reduce the delays. Mandatory use of ECS or NEFT for premium and pay-out remittance must be considered along with phasing out cheques.

Government Response: The Department of Agricultural Cooperation and Farmers Welfare, New Delhi is already striving to create a claim settlement portal within the larger agri-insurance portal comprising only drop-down options to select, minimizing human intervention. It is likely that this initiative, if effectively implemented, will address majority of the issues arising out of delayed claim settlement and payment.

5.9 SOPHISTICATION OF CLUSTER DESIGN:

Background: The Operational Guidelines notified by the Government of India contain illustrative methods to group districts into clusters. It is observed that the State governments usually follow them. One model uses historical yield data and coverage to determine the "risk factor" of districts. Another uses agro-climatic conditions to establish risk value.

Conclusion: In addition to these factors viz. climatic conditions and yield rates, there are other important parameters that may render the district as risky. For instance, a district with high irrigated area and favourable climatic conditions may still be deemed risky should the implementing agencies previously experience high claim ratio or if the region experiences high default rates.

Recommendation: Since the crop insurance programme completes two years from inception, it is worthwhile to incorporate further parameters that subtly affect the risk perception of a district into cluster design.

This study recommends initially adding claim ratio and defaulter incidence into the model along with yield data and agro-climatic risks. Scientifically calculated weighted average of all these parameters, instead of any one, will result in a better risk profiling. And premium rates may also be rationalized due to increased confidence in the process, minimizing adverse selection bias in premium rates.

5.10 INSURANCE COMPANY-ORIENTED CROP INSURANCE PROGRAMME

Background: As international experience suggests, the PMFBY is the inflection point for the story of crop insurance in India. PMFBY, like all the previous crop insurance programmes, depends on banking network for its operations.

Conclusion: Banking network is arguably well-entrenched and extensive in its reach and it is understandable for the fledgling scheme to rely on this machinery. However, the scale of the programme is only set to grow making crop insurance a burgeoning program.

Recommendation: In the long term, it is only prudent to steer the PMFBY towards becoming an insurance-company oriented programme from its current bank-oriented form.

6. BEST PRACTICES

6.1 LEVERAGING AND EMPOWERING DISTRICT AUTHORITY: SAGAR'S SUCCESS

It is observed that the district administration, compared to stakeholders at other levels, is relatively decisive in the implementation of the PMFBY.

Districts which achieved impressive coverage are often run by the administrations that are responsive and that actively monitor the progress through quantifiable metrics. For instance, Sagar and Sehore districts in Madhya Pradesh evaluated their progress against specific targets for the coverage of non-loanee farmers. The District Collector would call for a weekly review to ensure sustained efforts.

Weekly targets were fixed in terms of NL coverage which resulted in the agriculture department officials assisting the non-loanee farmers to complete the requisite documentation prior to approaching the banks. This preliminary vetting was of enormous help in the banks which were then freed to just process the applications. The NL coverage for Sagar during Kharif 2016 was 32,500 that made up 10% of the State total coverage.

A common issue that was raised across the States and districts is that it was difficult to maintain continuous interaction with the responsible officials of the insurance companies, especially private ones. Most of the private insurance companies depute a single official for multiple districts with no one present at the headquarters. This results in a discontinuity in the feedback loop. This study recommends that a statutory monthly or fortnightly meeting be mandated at district-level which is compulsory for the implementing company to attend. In addition, one dedicated official to oversee the operations at district-level be mandated at all times.

According to the present reporting mechanism, most insurance companies submit the data directly to the State-level government department and are then transmitted to the district-level officials resulting in a time-lag.

This study recommends that the district agriculture department be the reporting authority for the implementation agency in all coverage-related matters as this clears way for sourcing performance metrics in regular intervals and calibrating strategies for better coverage. It also serves to assign responsibility and accountability to district administrations.

6.2 SIGNIFICANCE OF OPERATIONAL GUIDELINES: BARMER'S SUCCESS STORY

Barmer is the fifth largest district in India situated in the western part of Rajasthan comprising the Thar desert region. The climatic zone of the district is called Arid Western Zone, with an average rainfall of 26.8 cm against the national average of 118.7 cm. Needless to say, the cultivable area is very fragmented and scattered across this large arid district unlike the vast tracts of contiguous cultivable area in better irrigated districts.

In Rajasthan state, 39.4% of the cropped area was covered under PMFBY in 2016-17 but in the district of Barmer, however, 60% of cropped area is insured. All the insured farmers are loanee. And 85-90% of these loanee farmers belong to the district's Barmer Central Cooperative Bank (BCCB), which has three times more network penetration than the scheduled commercial banks. Even when the premium rates were as high as 52%, the cooperative bank ensured all its farmers are insured and more importantly, fairly compensated.

It was learnt that unlike commercial banks which lend the entire eligible composite cash credit limit at once to farmer, this bank lends it in strict seasonal timeline. Recoveries are also encouraged every season. In fact, in the Kharif 2016 alone, the bank has witnessed the recoveries of over Rs 500 crores. This short-term lending cycle ensured that few Kisan Credit Card accounts turn dormant.

Moreover, during the PMFBY proposal acceptance phase, the officials at bank's headquarters in Barmer communicated with every PACS in the district at least once a week and ensured all their customers have been insured. A strong sense of ownership pervades among the bank's employees.

Due to the bank's diligent compliance of the due procedure, the claims approved for the season of Kharif 2016 amount to 310.87 crores, or 113% of the premium amount. Even then, the bank is in the process of negotiating some disputed claims which it deems were genuine. The commitment to serve their customers was evident.

The success of BCCB lies in following the operational guidelines of the PMFBY diligently.

6.3 JALNA'S SUCCESSFUL EXPERIENCE IN PUBLICITY/AWARENESS:

Quite often, if a district is considered risky by the insurance company, it rather maintains a low profile within the district than market and promote the insurance for higher premiums. This results in non-loanee farmers staying out of insurance coverage. However, if the government takes up this responsibility and markets the scheme thoroughly, there is little choice for the insurance company than to accept the premium paid by the farmers. The experience of many districts in Maharashtra lends credibility to this idea.

For instance, in the district of Jalna, 97% of total farmer population and as much share of the total cultivable area is covered under the PMFBY. Majority of this development can be attributed to the active involvement of district administration in rolling out publicity and awareness campaigns far and wide in the district. The MP and the Minister of Agriculture of the State have both participated in the awareness activities in the district.

Training programmes were organized for all the officials involved in the process of insurance roll-out. And every bank branch introduced an exclusive PMFBY help desk performing activities like mapping land records, calculation of premium, and filling the proposal forms for the insurance and the like. The help desk was manned by the personnel from the Agriculture/Revenue departments of the district. In addition, a help-line based out of District Magistrate's office has been operationalised for all enquiries pertaining to the scheme.

Publicity was mainly done through the 'campaign rath', a dedicated vehicle with all the necessary information and material went around the district. WhatsApp groups were created for all the banking officials, government department officials, and the beneficiary farmers for instant grievance redressal and enquiries. Senior management was also involved in the said groups for oversight issues.

In conclusion, such all-out efforts by the administration for the success of the scheme inevitably yield results. Jalna's experience in achieving the turn-out ratio of over 95% is a lesson for the others to follow.

This study also recommends a mandatory clause of earmarking 1-2% of the premium amount projected to be exclusively utilised for the marketing and publicity purposes of the scheme preferably by both government and insurance companies together.

7. SUMMARY OF RECOMMENDATIONS

TENANT FARMER COVERAGE:

In line with NITI Aayog's advice for intervention in tenant farmer affairs at Panchayat level outside of revenue records, the study recommends encouraging the creation of Crop Insurance Committees at the Gram Panchayat level convened by the Sarpanch. The committee is to be authorized to issue insurance eligibility certificates after due diligence. No ownership declaration required.

Performance of the committee to be linked to "Performance-based Grant" component in the panchayat budget of 10% under FFC recommendations.

NON-LOANEE FARMER COVERAGE:

Since insurance companies do not invest in building the service-delivery channels like agents, the existing channels like the Common Service Centres are to be roped in for delivering the PMFBY. Insurance companies to borne the commission component of the CSCs. In addition, the commission structure for the crop insurance product needs to be reviewed by the IRDA as the existing rate of 10% of farmer's component is too meagre to enable a thriving agency force.

CROP CUTTING EXPERIMENTS:

As CCE numbers reach lakhs in each State, it is proving increasingly difficult for the government officials to carry out the requisite number of CCEs with quality of the results intact. Instead, they often record the yield data through extrapolation and estimation leaving out the field-visits.

The services of the Gram Rozgar Sevak (GRS) employed under MGNREGA to be utilized for carrying out CCEs. S/he is already familiar with technology and may be paid honorarium per CCE conducted. Since a contract employee, easier to ensure compliance. GPS coordinates be used to reconcile CCE sites.

AGRI-INSURANCE PORTAL

Gujarat NIC may be consulted to improve the design of existing agri-insurance portal as Gujarat's insurance portal is arguably one of the best. State governments to be persuaded to avoid developing their own portals in parallel to the central portal to avoid uneconomical resource allocation.

ONE-YEAR INSURANCE CONTRACT

Since issuance of the insurance contracts stretches to several months, all stakeholders including banks are drawn into these arrangements for better part of the year, potentially impacting the quality of implementation.

One-year insurance contract with variable premium rates depending on the commencement may be considered. Operations may be limited to one time in a year. And year-long premium amounts may result in higher interest profits to insurance companies.

MANDATORY ECS & INTEREST IMPOSITION ON DELAYED TRANSACTIONS:

Cheques usage in crop insurance may be phased out and ECS be made mandatory.

Progressive interest rate may be imposed for delayed claim settlements by the insurance companies and remittance of the same by the banks.

TRAINING AND TECHNICAL SUPPORT

Lower-level officials in both the government and banks have been observed to have lower awareness regards the operational guidelines. At the State-level, the governments often delay notification release and tend to extend cut-off dates both of which impact the premium rates.

To avoid such incidents, the Technical Support Unit (TSU) envisaged in the operational guidelines needs to be established. Technical and sensitization training campaigns need to be carried out to create awareness among the stakeholders.

SOPHISTICATED CLUSTER DESIGN

In the current models as per the guidelines, specific variables that affect risk have been considered. Now that the scheme is stabilized, time has come for considering a weighted average of multiple variables. In addition, new variables like defaulter rate, claim ratio, etc. may also be introduced into models.

COMPETITIVE BIDDING TENURE

As States have adopted different bidding tenures for different durations, and consequently they were also quoted different premium rates, a systematic study on the trends needs to be carried out to identify the sweet-spot between the duration of tenure that instils ownership as well as optimal premium rate.

INSURANCE COMPANY-ORIENTED CROP INSURANCE PROGRAMME

Existing bank-network oriented crop insurance programme must give way to the insurance company oriented programme to free banks from irrelevant operations.

PPRC - PUBLICATIONS

1. Bharat Utthan: Agriculture And Farmer'S Welfare - Review of Major Initiatives And Measures in Agriculture and Farmer's Welfare By NDA Government *(December 2017)*

2. Gareeb Kalyan under Modi Government: From Welfare to Self Sustenance (*with reference to MGRNEGA reforms) (April 2017)*

3. Question of Media- Justice: Examining Objectivity and Non-partisan Character of Media While Covering Atrocities on SC (Dalit) and Minorities- A report of cases between 2015-16. (March 2017)

4. Making Villages Open Defecation Free: Issues in institutionalization of success. (August, 2016)

5. Jo-Kaha, So-Kiya (Implementation on Assurances made in the Election Manifesto by Modi Government during 2-year of office) (June, 2016)

6. Antyodaya (Justice and Welfare to the Deprived: Value addition made by Modi Government) (April, 2016)

7. Politics of Performance (A Comparative study of delivery of Good Governance by different political parties in India) (December, 2014)

8. Reference Web Director on Public Policy Issues (Compiled list of web links of various government ministries, departments and civil society on policy issues)

9. Fact Sheet on Communal Riots in India (Occasional paper on communal riots in India) (May, 2013)

10. Socio-Economic Development Policies for Manipur and Nagaland (Strategies for Strengthening the Policy Framework) (July, 2015)

11. Foundation for providing skills for life and livelihood through Elementary Education (Outline for Policy Framework) (September, 2015)

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